

WE CLAIM:

1. An image display system, comprising:
an integrator capable of producing a non-circular output light beam when illuminated by a circular input light beam;
an image display unit disposed on the path of the non-circular, output light beam; and
a non-circular aperture disposed on the path of the non-circular, output light beam, between the integrator and the image display unit.
2. A system as recited in claim 1, further comprising a light source to produce the circular input light beam.
3. A system as recited in claim 1, wherein the integrator is a tapered tunnel integrator.
4. A system as recited in claim 1, further comprising a color filter unit disposed to filter light incident on the image display unit.
5. A system as recited in claim 1, further comprising a projection lens unit to project an image light beam produced by the image display unit.
6. A system as recited in claim 1, wherein the image display unit comprises an array of tiltable mirrors.
7. A system as recited in claim 6, further comprising a projection lens unit to project an image light beam produced by the image display unit.
8. A system as recited in claim 7, further comprising a totally internally reflecting prism unit disposed between the image display unit and the projection lens unit.

9. A system as recited in claim 7, wherein the projection lens unit includes a projection lens pupil having a center, the center of the projection lens pupil being non-coincident with a central ray of the image light beam.

10. A system as recited in claim 6, wherein the tiltable mirrors are tiltable about respective axes, the axes being parallel to a pivot axis.

11. A system as recited in claim 10, wherein the non-circular output light beam has a major axis and a minor axis, and neither the major axis nor the minor axis is parallel to the pivot axis.

12. A system as recited in claim 10, wherein the non-circular output light beam has a major axis and a minor axis, and the major axis is parallel to the pivot axis.

13. A system as recited in claim 1, wherein the non-circular aperture comprises an aperture having a long dimension, and the non-circular output light beam has a long dimension, the long dimension of the non-circular output light beam being non-parallel to the long dimension of the non-circular aperture.

14. An optical system, comprising:
a light source capable of generating a beam of illumination light having a non-circular cross-section perpendicular to a direction of propagation;
an image display unit illuminated by the beam of illumination light; and
a non-circular aperture disposed on the path of the beam of illumination light having the non-circular cross-section, the non-circular aperture being disposed between the light source and the image display unit.

15. A system as recited in claim 14, wherein the image display unit comprises an array of tiltable mirrors, the mirrors being tiltable about respective mirror axes, the mirror axes being parallel to a pivot axis.

16. A system as recited in claim 15, wherein the non-circular aperture has a long dimension, the long dimension being parallel to the pivot axis.

17. A system as recited in claim 15, wherein the non-circular cross-section of the illumination light defines a long dimension and a short dimension perpendicular to the long dimension, the long and short dimensions being non-parallel to the pivot axis.

18. A system as recited in claim 17, wherein the beam of illumination light having the non-circular cross-section has an elliptical cross-section defining major and minor axes corresponding to the long and short dimensions respectively.

19. A system as recited in claim 15, wherein the non-circular cross-section of the illumination light defines a long dimension and a short dimension perpendicular to the long dimension, one of the long and short dimensions being parallel to the pivot axis.

20. A system as recited in claim 19, wherein the beam of illumination light having the non-circular cross-section has an elliptical cross-section defining major and minor axes corresponding to the long and short dimensions respectively.

21. A system as recited in claim 14, wherein the beam of illumination light having the non-circular cross-section has an elliptical cross-section.

22. A system as recited in claim 14, wherein the light source comprises a light generator unit producing a first light beam and a tunnel integrator, the first light beam being input to the tunnel integrator, and an output from the tunnel integrator comprising the beam of illumination light having the elliptical cross-section.

23. A system as recited in claim 14, further comprising a projection lens unit disposed to project an image light beam received from the image display unit.

24. A system as recited in claim 23, wherein the projection lens unit includes a projection lens pupil having a center, the center of the projection lens pupil being non-coincident with a central ray of the image light beam.

25. A system as recited in claim 14, further comprising a color filter unit disposed in the illumination light to filter light incident on the image display unit.

26. A system as recited in claim 14, wherein the elliptical cross-section defines a major axis, and the non-circular aperture has a long dimension non-parallel to the major axis.